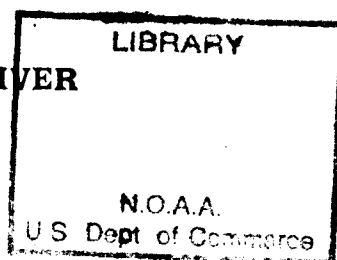


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Ministry of Public Works, Egypt.—Physical Department

**REPORT ON THE WEATHER AND STATE OF THE RIVER
FOR JANUARY 1942**



The Weather

Remarkably intense cold wave during the first week. On the Mediterranean coast the month as a whole was the coldest for 35 years. Elsewhere however it was on the whole not as cold as January 1937 or during a few other years.

The weather was also remarkable for exceptionally low humidity, which was much below normal practically throughout.

At the beginning of the month Egypt was under the influence of a depression off Cyprus and cool westerly winds and showery weather prevailed over Lower Egypt. On the coast the wind reached gale force and a velocity of 85 kilometres per hour was reached at Alexandria. An intense cold wave from the Balkans reached Egypt and temperatures fell very rapidly. At Helwan the maximum temperature on the 3rd was only 9°C., or 10°C. below the normal for the time of year; such a low maximum had not been recorded there since 1909.

At Giza the temperature in the early morning of the 6th fell to 3.3°C. below freezing point (26°F.); this was the coldest night since December 30, 1905, when the temperature fell to -4.0°C. (25°F.). The grass minimum was 4°C. below freezing point. Hoar frost was observed in many places; puddles were frozen over, and extensive damage was done to growing crops and fruit trees. At Asyût the temperature on the morning of the 4th fell to freezing point; the warmer shores of the Red Sea did not escape the severe weather, the temperature at Suez and Tor falling to 1°C. and 3°C. respectively on the morning of the 6th. These are the lowest temperatures recorded there since observations began over thirty years ago. Rain was widespread during this period, being particularly heavy on the 4th, when 37 millimetres were recorded at El-Arish, 13 at Damietta and 12 at Port Said.

The cold wave traversed the Nile Valley to the southern extremity of the Sudan.

During the presence of a depression over the Central Mediterranean a mild spell followed, but anticyclonic conditions later caused very cold nights, particularly on the 12th and 13th, when the temperature at Giza fell to -1°C. and -3°C., while on both occasions the grass minimum fell to 4°C. below zero. Hoar frost occurred, puddles were frozen, and again the crops suffered considerable damage.

Subsequently Egypt came under the influence of a depression over the western desert and the weather became much warmer. On the 16th strong southerly winds arose, khamsin conditions developed, and the air was thick with dust. At Alexandria the wind reached a velocity of 93 kilometres per hour during the night, and sandstorms were general. The depression passed on the following day and the arrival of westerly winds brought cooler weather and light rain in the north.

National Oceanic and Atmospheric Administration

Environmental Data Rescue Program

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Information Manufacturing Corporation
Imaging Subcontractor
Rocket Center, West Virginia
September 14, 1999

On the 18th a deep depression was situated near Crete and dry south-westerly winds prevailed in Egypt. Similar conditions, characterised by very low humidity, lasted for a week. There was a sharp fall of temperature on the 25th but the cold weather lasted only two days, the arrival of a depression over Asia Minor with a secondary over the eastern Mediterranean giving rise to strong southerly winds and milder weather.

For the month as a whole the barometric pressure and temperature in Egypt were both below normal; in the Sudan the temperature was above normal. Owing to the prevalence of southerly winds, the air was unusually dry for the time of year, the mean humidity at Alexandria, Cairo and Helwan being 56, 51 and 44 % compared with normal values of 67, 69 and 59 % respectively. The values are the lowest on record for January and are much below normal for practically every day. Rainfall was well below normal.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR JANUARY 1942

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX. + MIN./2			
	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I.—Mediterranean ⁽¹⁾	1017.6	—0.6	17.2	—1.4	9.2	—1.4	13.2	—1.4	20	—14
II.—Lower Egypt ...	1018.3	—0.6	18.3	—1.5	5.3	—1.5	11.8	—1.5	8	— 6
III.—Middle Egypt ...	1018.9	—0.5	19.0	—0.2	6.5	—1.2	12.8	—0.7	0	— 4
IV.—Upper Egypt ...	1019.5	—0.1	21.5	+0.2	6.2	—0.9	13.8	—0.4	Drops	—
V.—Western Desert...	1019.8	—0.4	20.9	—0.3	3.9	—1.1	12.4	—0.7	0	0
VI.—Red Sea (Egypt)	1018.4	+0.4	21.0	—0.7	9.7	—1.3	15.4	—1.0	0	— 1
VII.—Red Sea(Sudan) ⁽²⁾	1015.2	—0.4	27.9	+0.8	19.4	—0.5	23.6	+0.1	Drops	— 7
VIII.—North Sudan ...	1014.9	—0.3	31.0	+1.0	13.3	+0.4	22.2	+0.7	0	0
IX.—Central Sudan ...	1012.2	—1.1	34.3	+1.2	14.3	+1.1	24.3	+1.2	0	0
X.—South Sudan ...	1011.3	+0.3	36.9	+0.6	19.7	+1.1	28.3	+0.8	Drops	— 2

⁽¹⁾ Alexandria and Port Said.

⁽²⁾ Port Sudan only.

L. J. SUTTON,
Director, Meteorological Service.

State of the River

Lake Albert at Butiaba was almost steady during the month. Its level on January 1st, 1942, was 2 cms. below the normal but was 39 cms. above that of the corresponding day of last year.

The Bahr el Jebel at Juba was practically steady during the month. The levels were a few cms. below the normal but were well above those of last year.

The River Sobat at Nasser fell more rapidly than normal rate. The levels were, on the average, 20 cms. above the normal but more than one metre above last year's.

The White Nile at Malakal fell also more rapidly, the level which was 29 cms. above the normal at the beginning of the month was 23 cms. below it at its end. The levels were, as a whole, about one metre above those of last year.

The Blue Nile at Roseires fell normally during the month. The levels were above both the normal and last year's throughout. At Khartoum the river fell slightly during the month. The level which was below normal and above last year's at the beginning of the month, was almost identical with them at its end.

At Kajnarti, on the Main Nile, the river fell steadily during the whole month and the levels were, on the average, about 70 cms. below the normal but about one metre above those of last year.

The difference of the mean levels in January 1942 from those of January 1941, and from the normal 1906-35 were :—

STATION	MEAN DIFFERENCE OF LEVELS	
	January 1942 minus January 1941	January 1942 minus Normal
	Metre	Metre
Juba	+ 0.35	— 0.10
Nasser	+ 1.27	+ 0.20*
Malakal	+ 0.91	+ 0.02
Roseires	+ 0.30	+ 0.12
Khartoum	+ 0.45	— 0.27
Kajnarti	+ 0.98	— 0.67

* Nasser normal is for 1922-1935 only.

Y. M. SIMAIKA,
Director, Hydrological Service.

Ministry of Public Works, Egypt.—Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR FEBRUARY 1942

The Weather

1942

Mild; unsettled.

On the 2nd, an extensive depression covered the east central Mediterranean giving rise to warm southeast winds and sand-storms in Egypt, but on the following day the wind veered to the southwest, reaching a velocity of 70 kilometres an hour at Alexandria, and the weather became cooler. Near the coast light rain fell on the 5th.

Northeast winds prevailed on the 8th and the temperature rose, morning mists being widespread on three successive days. A depression situated over Greece with a secondary off the coast west of Alexandria on the 11th gave rise to southerly winds, and the temperature in Cairo rose to 28 °C (82 °F), or 8 °C above the normal for the time of year. By the following day the secondary had reached northern Syria, winds went round to the west, and there was a sharp fall in temperature. A succession of depressions followed. Light showers were general on the 14th and 15th, extending also over Upper Egypt and the northern Red Sea; a thunderstorm occurred at Tor in Sinai. The weather remained unsettled for several days, particularly on the 17th and 18th. Conditions in Upper Egypt and the western desert were disturbed to an unusual degree. Rain fell as far south as Wadi Halfa, in the western desert at Siwa and Kharga Oases, and over the northern Red Sea, where thunderstorms were again reported. Rain was general also throughout Lower Egypt. The weather became much cooler on the 20th, the temperature in Cairo not rising above 15 °C (59 °F) or 6 °C below normal. Strong westerly winds, at times of gale force, sand-storms and heavy showers were widespread on that day, while on the following two days light rain fell near the coast.

On the 23rd Egypt again came under the influence of a depression over the Mediterranean, centred over the Gulf of Lions, with a continuous and sharp gradient of pressure extending almost to Egypt. With the approach of this depression, southerly winds prevailed and the weather rapidly became warmer, the temperature in Cairo on the 25th reaching 31 °C (88 °F) or 8 °C above normal. On that and the following day severe sand-storms were experienced in many places, especially in the western desert. Cooler air arrived on the 27th when the depression had passed to the east.

For the month as a whole the barometric pressure was everywhere below normal and temperature above normal, particularly in the Sudan.

Rainfall in Egypt was below normal except over the western desert, Upper Egypt, and the Red Sea. Relative humidity at Cairo and Alexandria was slightly below normal.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR FEBRUARY 1942

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN./2			
	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I.—Mediterranean (1)	1015.4	—1.5	20.3	+0.9	11.4	+0.3	15.8	+0.6	7	—17
II.—Lower Egypt ...	1015.8	—1.0	21.5	+0.9	7.4	+0.4	14.4	+0.6	3	— 7
III.—Middle Egypt ...	1016.0	—1.6	22.4	+1.7	8.6	+0.3	15.5	+1.0	2	— 1
IV.—Upper Egypt ...	1015.8	—2.0	24.9	+1.6	8.8	+0.8	16.8	+1.2	2	—
V.—Western Desert...	1016.3	—2.2	23.9	+0.5	6.8	+0.8	15.4	+0.6	2	+ 1
VI.—Red Sea (Egypt)	1015.0	—1.3	22.5	+0.1	11.3	0.0	16.9	0.0	4	+ 3
VII.—Red Sea(Sudan)(2)	1012.2	—2.5	29.2	+2.0	19.8	+0.7	24.5	+1.4	5	+ 2
VIII.—North Sudan ...	1011.9	—2.2	34.3	+2.5	16.2	+2.4	25.2	+2.4	0	0
IX.—Central Sudan ...	1009.7	—2.4	37.1	+2.4	17.3	+3.0	27.2	+2.7	1	+ 1
X.—South Sudan ...	1008.5	—1.5	39.0	+1.6	22.2	+2.2	30.6	+1.9	5	— 2

(¹) Alexandria and Port Said.

(²) Port Sudan only.

L. J. SUTTON,
Director, Meteorological Service.

State of the River

Lake Albert at Butiaba fell 4 centimetres during the month. Its level on March 1st, 1942, was 19 centimetres above the normal and 59 centimetres above that of the corresponding day of last year.

The Bahr el Jebel at Juba continued recording almost steady levels during the whole month. These levels were few centimetres below the normal but well above those of last year.

The River Sobat at Nasser continued its fall until the 12th, after which, a slight rise set in, and the levels fluctuated slightly to the end of the month. The level which was only 14 centimetres above the normal at the beginning of the month was 46 centimetres above it at its end. The levels on general, were about half a metre above those of last year.

The White Nile at Malakal fell below the normal during the whole month and the levels on the average were 25 centimetres above last year's. At Gebel Aulia regulation for emptying the Reservoir started on the 10th, the D.S. gauges rose for some days then remained almost steady till the end of the month.

The Blue Nile at Roseires fell almost identically with the normal during the whole month except for the last few days when the levels were slightly above it ; on the average the levels were a few centimetres above those of last year. At Khartoum the levels followed the gauge D.S. Gebel Aulia.

The Main Nile at Kajnarti fell at nearly normal rate until the 14th, then more rapidly until the 26th, then—due to the emptying of Gebel Aulia—it rose steadily till the end of the month. The levels were as a whole 55 centimetres below the normal and 34 centimetres above last year's.

The difference of the mean levels in February 1942 from those of February 1941, and from the normal 1906-1935 were :—

STATION	MEAN DIFFERENCE OF LEVELS	
	February 1942 minus February 1941	February 1942 minus Normal
	Metre	Metre
Juba	+ 0.39	— 0.06
Nasser	+ 0.54	+ 0.25*
Malakal	+ 0.25	— 0.22
Roseires	+ 0.14	+ 0.04
Khartoum	— + 0.03	+ 0.02
Kajnarti	+ 0.34	— 0.55

* Nasser normal is for 1922-1935 only.

Y. M. SIMAIKA,
Director, Hydrological Service.

5 1942

Ministry of Public Works, Egypt.—Physical Department

**REPORT ON THE WEATHER AND STATE OF THE RIVER
FOR MARCH 1942**

The Weather

The chief characteristics of the weather of March were the thunderstorm of the 18th, and the cool spell of the 23rd, and 24th.

At the beginning of the month a deep depression near Malta caused southerly winds and hot weather in Egypt. The temperature at Giza and Helwan rose to 33°C (91°F) being 11°C above normal. On the following day the depression reached the Syrian coast and cooler weather resulted.

On the 4th Egypt fell under the influence of a deep depression advancing rapidly from the western desert. Its passage over Middle Egypt on the next day was accompanied by showery weather. At Helwan 7 mms. of rain were recorded. Cold air from Greece and Asia Minor then arrived in Egypt and penetrated to the extreme south of the Sudan. Duststorms were severe and widespread in the Sudan and the temperature fell considerably from one day to another. Thus at Khartoum the maximum temperature which was on the 5th 43°C (109°F) being 7°C above normal fell on the following day to 28°C (82° F) only or 8°C below normal.

On the 8th a depression was situated off Crete and warm southerly winds traversed Egypt; two days after the depression passed to the east and was followed by a pleasant cool weather which was enjoyed for a few days. Showers occurred in some places and were particularly heavy in the eastern desert; 11 mms. of rain were collected at Suez on the 12th, and 23 mms. at Faqus on the 13th.

Another depression made its appearance over the western desert on the 16th; winds in Egypt blew from the east and southeast; the weather gradually became warmer. The thermometer rose at Helwan on the following day to 32°C *i.e.* 8°C above normal. The arrival of this depression near the coast of Palestine on the morning of the 18th induced a northwesterly current of air in Egypt and a very rapid fall of temperature resulted; thus the maximum temperature in Helwan was only 21°C (70°F).

A very defined cold front traversed Middle Egypt about noon on that day and severe thunderstorms occurred in some localities. At Helwan 11 mms. of rain accompanied with hailstones of 12 mms. of diameter fell in 5 minutes, while at Fayum 10 mms. were collected during the storm. It may be of interest to mention that lumps of hail weighing from 200 to 550 grams and up to 12 cms. in length fell once in a very severe thunderstorm at Port Said in October 1907; roof tiles and windows were smashed.

The depression remained over the eastern Mediterranean for a few days and unsettled conditions continued. On the 22nd cool northwest winds of gale force prevailed on the coast, a velocity of 72 k.m.p.h. being recorded at Alexandria, while showers were widespread. The weather was remarkably cool. In Cairo the maximum temperature did not exceed 19°C (66°F) on two successive days namely the 22nd and 23rd being 7°C below normal.

On the 24th a deep depression appeared off Benghazi giving rise to warm southeasterly winds. Duststorms were experienced and Khamsin weather developed in Egypt. On the following day the temperature rose rapidly in Cairo to 34°C (93°F) *i.e.* 8°C above normal. The depression passed in the evening, the arrival of northwest wind being marked by an abrupt fall in temperature. On the 26th the maximum temperature in Cairo was only 24°C. Cool weather however did not long prevail as Egypt was again influenced by a depression on the 29th. The sky became overcast and warm weather prevailed until the end of the month.

For the month as a whole the atmospheric pressure was below normal everywhere except in the southern Sudan, while the temperature was above normal in all districts except Lower Egypt. The rainfall was generally about normal.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR MARCH 1942

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN./2			
	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I.—Mediterranean (1)	1015.0	—0.6	21.4	+0.2	13.6	+0.5	17.5	+0.4	9	— 3
II.—Lower Egypt ...	1015.0	—1.3	23.0	—0.9	9.9	+0.9	16.4	0.0	5	— 1
III.—Middle Egypt ...	1015.0	—1.4	24.8	+0.6	11.4	+0.9	18.1	+0.8	12	+ 8
IV.—Upper Egypt ...	1015.0	—0.9	28.3	+0.4	12.5	+1.5	20.4	+1.0	2	—
V.—Western Desert...	1016.0	—0.7	27.8	+0.2	11.3	+1.5	19.6	+0.8	0	—
VI.—Red Sea (Egypt)	1014.0	—0.6	25.3	+0.4	14.3	+0.2	19.8	+0.3	0	— 1
VII.—Red Sea(Sudan)(2)	1012.2	—0.6	30.3	+1.6	19.8	+0.1	25.0	+0.8	Drops	— 2
VIII.—North Sudan ...	1011.1	—0.3	36.2	+0.5	17.5	+0.6	26.8	+0.6	0	0
IX.—Central Sudan ...	1009.6	—0.2	37.4	—0.3	17.7	+0.6	27.6	+0.2	0	— 1
X.—South Sudan ...	1009.3	+0.2	38.1	0.0	22.7	+1.2	30.4	+0.6	26	+ 4

⁽¹⁾ Alexandria and Port Said.

⁽²⁾ Port Sudan only.

MAHMUD HAMED,
A. Director, Meteorological Service.

State of the River

Lake Albert at Butiaba rose 11 cms. during the month. Its level on April 1st, 1942 was 39 cms. above the normal and 72 cms. above the corresponding day of last year.

With the exception of a few days during which the Bahr el Jebel at Juba rose to a peak on the 13th, the levels were almost steady and identical with the normal throughout the month. The levels in general were well above those of last year.

The River Sobat at Nasser was almost steady till the 11th, then rose to a peak on the 19th, which was more than one metre above the normal and fell thereafter to the end of the month. The levels were continuously above both the normal and last year's.

During the first fortnight, the White Nile at Malakal recorded almost steady levels below the normal. On the 24th, it rose to a peak and then fell to the end of the month. The levels on the average were almost normal and well above those of last year.

The Blue Nile at Roseires fell slightly until the 13th, after which an abnormal rise due to the spring rains set in. A peak was reached on the 22nd, with a corresponding discharge of 50 millions m³/day. This peak which was 2 metres above the normal was the highest ever recorded in March since observations began in 1906. The levels as a whole were much above the normal and those of last year. At Khartoum the river was almost steady until the 24th, then it rose till the end of the month.

The Main Nile at Kajnarti, continued to record almost steady levels throughout the month. The levels were, owing to the contribution from Gebel Aulia, well above both the normal and last year's throughout.

The difference of the mean levels in March 1942 from those of March 1941, and from the normal 1906-1935 were :—

STATION	MEAN DIFFERENCE OF LEVELS	
	March 1942 minus March 1941	March 1942 minus Normal
	Metre	Metre
Juba	+ 0·42	+ 0·09
Nasser	+ 1·01	+ 0·72*
Malakal	+ 0·35	+ 0·02
Roseires	+ 0·90	+ 0·76
Khartoum	+ 0·21	+ 0·39
Kajnarti	+ 0·36	+ 0·35

* Nasser normal is for 1922-1935 only.

Y. M. SIMAIKA,
Director, Hydrological Service.

Ministry of Public Works, Egypt.—Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR APRIL 1942

The Weather

Three heat waves occurred, near the middle and end of the month.

At the beginning of the month Egypt was under the influence of a depression over Asia Minor, with high pressure over Libya ; the winds were mainly westerly and the weather cool ; light showers occurred near the coast and in the northern part of the Delta. With increasing pressure over Lower Egypt and the eastern Mediterranean the winds became north-easterly and the temperature rose. On the 6th a shallow depression was situated over Crete, and the wind on the coast west of the Delta backed to south causing warmer weather. There was thick fog in Cairo district and the eastern Delta on the early mornings of the 7th and 8th. The depression passed to Syria on the 7th, and cool northerly winds prevailed until the 12th, when a depression arrived near Crete. The wind went round to the south and the temperature rose rapidly as the depression passed north of Egypt, reaching 38° C. (100° F.), *i.e.* 10° C. above normal, in Cairo district on the 14th ; sandstorms were wide-spread. The cold front passed over Lower Egypt on that day, the north wind on its arrival attaining a velocity of 70 kilometres an hour at Helwan, and the temperature quickly fell almost to normal, but on the 17th Egypt again came under the influence of a depression approaching along the Mediterranean and a more intense heat wave resulted, reaching its peak on the 18th, when there were depressions off Salum and in the desert east of Siwa Oasis. Hot southerly winds caused the temperature to reach 38° C. at Alexandria and 42° C. (108° F.) in Cairo on that day. The following day the desert depression passed over Upper Egypt and a minor cold front brought a small fall of temperature. On the 20th the depressions had passed well to the east and the main cold front, accompanied by northerly winds of 50 kilometres an hour, resulted in a remarkable fall of temperature, to such an extent that the temperature in Cairo on that day did not rise above 27° C. (81° F.).

Conditions remained pleasant until the 24th when a trough of low pressure extended from east of Crete to the desert between Siwa and the Nile. There were very light showers in Cairo on 24–26th. The trough however rapidly moved eastwards and temperatures did not exceed 35° C. It was followed by a depression taking a course unusually far inland, passing south of Siwa and crossing Upper Egypt, throughout which region hot southerly winds prevailed, while Egypt was traversed by moderately cool strong north-easterly winds. At Qosseir, on the Red Sea coast, the temperature reached 43° C., the highest in April in the fifteen years during which observations have been made.

The month ended with hot southerly winds blowing throughout Egypt towards a deep depression over the Central Mediterranean, the temperature on the 30th reaching 40° C. (104° F.) in Cairo and 46° C. (115° F.) at Aswân.

For the month as a whole the barometric pressure was slightly above normal in Lower Egypt and in the Central and Southern Sudan, and slightly below normal elsewhere. Except in the Central Sudan, the temperature was everywhere above normal, especially in Middle and Upper Egypt. Rainfall was practically negligible in Egypt and was much below normal in the Sudan.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR APRIL 1942

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX. + MIN./2			
	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I.—Mediterranean ⁽¹⁾	1014.6	+0.7	24.6	+1.0	15.8	+0.4	20.2	+0.7	1	— 3
II.—Lower Egypt ...	1014.8	+0.2	28.6	+0.8	11.9	+0.1	20.2	+0.4	0	— 4
III.—Middle Egypt ...	1014.2	—0.2	30.6	+2.2	13.8	+0.5	22.2	+1.4	0	— 2
IV.—Upper Egypt ...	1013.1	—0.4	34.6	+2.0	16.2	+1.0	25.4	+1.5	0	—
V.—Western Desert...	1014.4	—0.1	34.0	+1.6	15.3	+1.5	24.6	+1.6	0	0
VI.—Red Sea (Egypt)	1012.2	—0.1	28.6	+0.5	17.8	+0.5	23.2	+0.5	0	0
VII.—Red Sea(Sudan) ⁽²⁾	1010.7	—0.4	32.9	+1.3	23.5	+2.1	28.2	+1.7	Drops	— 1
VIII.—North Sudan ...	1009.0	0.0	39.6	+0.1	21.0	+0.4	30.3	+0.2	1	0
IX.—Central Sudan ...	1008.4	+0.4	40.0	—0.1	20.5	+0.2	30.2	0.0	0	— 4
X.—South Sudan ...	1009.6	+0.4	38.4	+1.2	24.4	+1.9	31.4	+1.6	35	—35

(1) Alexandria and Port Said.

(2) Port Sudan only.

L. J. SUTTON,
Director, Meteorological Service.

State of the River

Lake Albert at Butiaba rose 3 centimetres during the month. Its level on May 1st. 1942, was 43 centimetres above the normal and 74 centimetres above the corresponding day of last year.

The Bahr el Jebel at Juba was almost steady during the month. Its levels were identical with the normal but were 35 centimetres above those of last year throughout.

The River Sobat at Nasser fluctuated slightly below the normal throughout the month. The levels in general were well above those of last year.

The White Nile at Malakal fell during the month. The level which was 13 centimetres above the normal at the beginning of the month was 25 centimetres below it at its end. The levels were, as a whole, above those of last year. At Gebel Aulia the D.S. gauge fell rapidly after the 22nd till the end of the month.

The Blue Nile at Roseires continued to fall during the first fortnight, but fluctuated afterwards with a slight tendency to rise. The levels were above the normal and last year's throughout the month. At Khartoum the River recorded the same features which prevailed D.S. Gebel Aulia.

The levels of the Main Nile at Kajnarti owing to the contribution by Gebel Aulia Reservoir were almost steady during the month. They were much above both the normal and those of last year.

The difference of the mean levels in April 1942 from those of April 1941, and from the normal 1906-1935 were :—

STATION	MEAN DIFFERENCE OF LEVELS	
	April 1942 minus April 1941	April 1942 minus Normal
	Metre	Metre
Juba	+ 0.35	0.00
Nasser	+ 0.21	— 0.31*
Malakal	+ 0.19	— 0.13
Roseires	+ 0.39	+ 0.11
Khartoum	+ 0.63	+ 0.20
Kajnarti	+ 0.90	+ 0.78

* Nasser normal is for 1922-1935 only.

Y. M. SIMAIKA,
Director, Hydrological Service.

Ministry of Public Works, Egypt.—Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR MAY 1942

The Weather

Intense heat wave in first week; otherwise only small departures from average conditions.

The month opened with hot southerly winds due to the presence of a depression north of the Delta. The temperature in Cairo rose to 43° C. (109° F.), being 12° C. above normal. During the evening the depression passed to Syria and winds veered to the north, bringing a pronounced fall in temperature.

On the 3rd a series of depressions extended from Greece to the interior of Tripoli and moving slowly eastwards gave rise to extremely hot weather throughout Egypt with fresh south-easterly winds and widespread dust storms. A velocity of 78 kilometres per hour was registered at Helwan in the early morning of the 5th. In Cairo the temperature reached 44° C. on the 4th and 5th, while on the 6th it rose to 46° C. (115° F.); at Asyut, Qena, Kharga and Dakhla 48° C. was recorded; at Luxor, 49° C. (120° F.). Some of these are record high temperatures for the stations. During this heat wave the temperature on the coast of the Delta did not exceed 34° C. The line of depressions extended from Kufra Oasis, across the Delta to Cyprus on the 6th., and cool air in its rear began to arrive in western Egypt on that day. By the following morning the cold front had travelled as far south as Asyut, the breaking-down of the heat wave being abrupt and of such a marked degree that the temperature in Cairo on that day did not rise above 32° C. (90° F.), the normal for the time of the year.

Cool and pleasant weather followed, and lasted for a week, when the passage of a depression along the Mediterranean again resulted in easterly winds and warm weather, but the heat wave was much less intense than the former one and temperatures in Cairo area did not exceed 38° C. With the passage of the depression on the 18th. cool northerly winds prevailed over Egypt, reaching their greatest effect on the 20th., when the maximum temperature at Helwan was only 28° C. (82° F.) or 5° C. below normal. Light showers occurred near the coast on the 19th and 20th.

The weather remained cool and pleasant, with winds mainly between north-west and north-east until the end of the month.

For the month as a whole the atmospheric pressure was below normal everywhere except along the Mediterranean coast, though only by small amounts. Owing to the heat wave at the beginning of the month, the temperature was above normal in all districts. Rainfall in the Sudan was about normal.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR MAY 1942

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
	1942	Difference from Normal	MAXIMUM		MINIMUM		(MAX+MIN)/2		1942	Difference from Normal
			1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal		
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I.—Mediterranean ⁽¹⁾	1013.4	+0.2	27.2	+1.0	18.8	+0.6	23.0	+0.8	1	— 1
II.—Lower Egypt ...	1013.4	—0.3	31.9	+0.5	15.4	+0.2	23.6	+0.4	0	— 2
III.—Middle Egypt ...	1013.0	—0.1	33.9	+1.6	17.2	+0.4	25.6	+1.0	0	— 1
IV.—Upper Egypt ...	1011.6	—0.2	37.6	+1.4	20.2	+0.8	28.9	+1.1	0	—
V.—Western Desert...	1013.0	+0.4	37.0	+0.4	19.7	+1.3	28.4	+0.8	0	0
VI.—Red Sea (Egypt)	1010.4	—0.4	31.7	+0.3	20.7	—0.5	26.2	—0.1	0	0
VII.—Red Sea(Sudan) ⁽²⁾	1008.6	—0.9	36.4	+1.4	25.3	+1.5	30.8	+1.4	Drops	— 1
VIII.—North Sudan ...	1008.4	0.0	41.8	+0.3	25.2	+1.1	33.5	+0.7	11	+ 6
IX.—Central Sudan ...	1008.7	+0.1	38.8	—1.1	24.0	+1.4	31.4	+0.2	31	+ 8
X.—South Sudan ...	1011.0	+0.4	34.0	—0.9	23.1	+1.1	28.6	+0.1	123	— 1

(1) Alexandria and Port Said.

(2) Port Sudan only.

L. J. SUTTON,
Director, Meteorological Service.

State of the River

Lake Albert at Butiaba rose 41 centimetres during the month. Its level on June 1, 1942, was 79 centimetres above the normal and 105 centimetres above that of the corresponding day of last year.

The Bahr el-Jebel at Juba showed some flushes during the month, the biggest was that on the 15th, being more than one metre above the normal. The levels were in general above both the normal and last year's.

The River Sobat at Nasser rose more rapidly than normal rate. The level which was 20 centimetres below the normal at the beginning of the month was 61 centimetres above it at its end. The levels were much above those of last year throughout.

The While Nile at Malakal rose below the normal till the 20th, and above it thereafter. The levels were continuously well above last year's.

The Blue Nile at Roseires started its characteristic rise on the 15th. The red water was reported on the 17th, and flood conditions were developing thereafter. The levels fluctuated violently above the normal, but were a little below last year's. At Khartoum the river fell below the normal during the first fortnight, then rose till it reached the normal by the end of the month.

At Khashm el Girba, on the Atbara, gauge reading have been recorded during the month but no significant discharge has yet been measured.

On completion of the emptying of Gebel Aulia Reservoir, the Main Nile at Kajnarti subsided rapidly after the 6th. The levels were a little below the normal and much above those of last year.

The difference of the mean levels in May 1942 from those of May 1941, and from the normal (1906-1935) were :—

STATION	MEAN DIFFERENCE OF LEVELS	
	May 1942 minus May 1941	May 1942 minus Normal
	Metre	Metre
Juba	+ 0·18	+ 0·10
Nasser	+ 0·55	+ 0·19
Malakal	+ 0·24	— 0·02
Roseires	— 0·02	+ 0·22
Khartoum	+ 0·12	— 0·25
Khashm el Girba	— 0·03	— 0·08
Kajnarti	* + 0·79	— 0·15

* Nasser normal is for 1922-1935 only.

Y. M. SIMAIKA,
Director, Hydrological Service.

Ministry of Public Works, Egypt.—Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR JUNE 1942

The Weather

Much warmer than usual, the temperature being almost continually above normal.

On the 2nd of the month there was thick fog in Cairo district in the morning; a depression arrived near Crete, winds in Egypt became southerly and the weather became rapidly hotter. There were light showers near the coast and in the Delta on the 4th. A small depression was situated over Middle Egypt on the 5th., when the temperature in Cairo district rose to 45°C (113°F) compared with a normal of 34°C. Northerly winds arrived in the evening, bringing a pronounced fall in the temperature, which on the following day did not exceed 34°C. Cool northwesterly winds prevailed throughout Lower and Middle Egypt for some days, though on the 8th. a depression from the western desert crossed Upper Egypt, the temperature at Luxor and Aswan reaching 46°C (115°F) on that day.

From the 11th to the 23rd temperatures generally were continuously above normal, owing to the presence of a shallow depression west of Cyprus.

On the 22nd the temperature reached 43°C (109°F) in Cairo and 45°C in Upper Egypt. There was then a steady fall until the 25th, on which day the maximum temperature was only 33°C (91°F). Cool weather continued until the 29th.

For the month as a whole the barometric pressure was below normal, and the temperature above normal, throughout Egypt and the Sudan. The mean temperature in Cairo (Ezbekia) was higher than for any June since 1916. Rainfall was much below normal in all districts of the Sudan.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR JUNE 1942

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		(MAX+MIN)/2			
	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I.—Mediterranean (1)	1011.0	—0.9	30.2	+1.5	22.4	+1.3	26.3	+1.4	0	0
II.—Lower Egypt ...	1011.2	—0.8	34.7	+0.9	19.3	+1.2	27.0	+1.0	Drops	0
III.—Middle Egypt ...	1011.0	—0.6	36.8	+1.9	20.7	+1.1	28.8	+1.5	0	0
IV.—Upper Egypt ...	1009.6	—0.5	39.1	+0.7	22.5	+0.5	30.8	+0.6	0	—
V.—Western Desert...	1011.7	+0.1	38.9	+0.1	22.2	+0.7	30.6	+0.4	0	0
VI.—Red Sea (Egypt)	1008.0	—0.5	34.5	+1.1	23.9	—0.1	29.2	+0.5	0	0
VII.—Red Sea(Sudan)(2)	1005.6	—1.1	40.1	+1.3	25.3	—0.4	32.7	+0.4	0	0
VIII.—North Sudan ...	1007.6	—0.5	42.2	+0.6	25.9	+0.6	34.0	+0.6	Drops	—10
IX.—Central Sudan ...	1008.4	—1.2	38.7	+0.5	24.4	+1.4	31.6	+1.0	41	—7
X.—South Sudan ...	1011.7	—0.1	32.0	—0.3	22.5	+1.5	27.6	+0.6	89	—54

(1) Alexandria and Port Said.

(2) Port Sudan only.

TABLE SHOWING RAINFALL DATA FOR THE MONTH OF JUNE 1942

Station	1942	Difference from Normal	Station	1942	Difference from Normal
	mm.	mm.		mm.	mm.
Juba	115	—20	Addis Ababa	—	—
Wau	117	—49	Roseires	155	+26
Malakal	90	—40	Wad Medani	Drops	—33
El-Obeid	19	—18	Atbara	0	—2
El-Fasher	3	—13	Kassala	Drops	—29
Khartoum	—	—	Port Sudan	0	0

* Nasser normal is for 1922-1935 only.

L. J. SUTTON,
Director, Meteorological Service.

State of the River

Lake Albert at Butiaba rose 15 cms. during the month. Its level on July 1st, 1942 was 91 cms. above the normal and 117 cms. above the corresponding day of last year.

The Bahr el Jebel at Juba fluctuated above the normal during the whole month. The levels were on the average almost identical with those of last year.

The River Sobat at Nasser rose at nearly normal rate. The levels were well above the normal but little below last year's.

The White Nile at Malakal rose above both the normal and last year's levels throughout the whole month.

The Blue Nile at Roseires fluctuated violently during the month showing some prominent peaks gradually increasing in height. The levels were as a whole, almost identical with the normal but more than one metre below those of last year. At Khartoum the river rose at slower than normal rate, the levels were below both the normal and last year's throughout.

After the 22nd, the River Atbara at Khashm el Girba rose sharply and steadily till the end of the month when it was well above the normal and much above last year's.

The Main Nile at Kajnarti rose faster than normal rate. The level which was 70 cms. below the normal at the beginning of the month was 30 cms. below it at its end. The levels were on the average below the normal but almost identical with those of last year.

The difference of the mean levels in June 1942 from those of June 1941 and from the normal 1906-35 were :—

STATION	MEAN DIFFERENCE OF LEVELS	
	June 1942 minus June 1941	June 1942 minus Normal
	Metre	Metre
Juba	— 0 03	+ 0·25
Nasser	— 0·10	+ 0·43*
Malakal	+ 0·10	+ 0·19
Roseires	— 1·02	+ 0·10
Khartoum	— 0·64	— 0·17
Khashm el Girba	— 0·07	— 0·33
Kajnarti	— 0·02	— 0·24

* Nasser Normal is for 1922-35 only.

Y. M. SIMAIKA,
Director, Hydrological Service.

Ministry of Public Works, Egypt.—Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR JULY 1942

1943

WEATHER BUREAU

The Weather

Apart from two minor heat waves of short duration near the middle and end of the month, the weather of July was of the settled summer type.

At the beginning of the month cool northwesterly winds in the rear of a depression arrived in Egypt and very light rain fell at places on the coast of the Delta; the temperature at Helwan on the 2nd did not rise above 31° C. (88° F.) or 4° C. below normal. Average conditions were established on the 4th and lasted until the 13th when a shallow depression near Cyprus cut off the supply of cool air from southern Europe. The temperature in Cairo district reached 40° C. (104° F.) on the 14th and 15th. Only minor fluctuations from average conditions followed, but on the 28th a shallow depression over the Delta caused fresh southerly winds and moderate khamsin conditions in Lower and Middle Egypt, a rare occurrence at this time of year. The temperature in Cairo rose to 40° C. on the following day, but the depression passed on the 30th, northerly winds bringing a sharp fall in temperature; in the early evening drops of rain fell at Fayum. (No rain has been recorded there previously in July since observations began in 1907).

For the month as a whole the atmospheric pressure was well above normal in all districts. The temperature was slightly above normal on the Mediterranean coast and in Middle Egypt, and normal or slightly below elsewhere. Low cloud in the early morning was frequent and mist occurred on a number of occasions, particularly on the 14th and 15th. Relative humidity was about normal. Rainfall in the Sudan was slightly above normal except in the south, where it was slightly below.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR JULY 1942

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		(MAX + MIN / 2)			
	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I.—Mediterranean (1)	1009.4	+0.6	31.0	+0.7	23.3	+0.3	27.2	+0.5	Drops	0
II.—Lower Egypt ...	1009.6	+0.5	33.8	—0.6	20.3	+0.6	27.0	0.0	0	0
III.—Middle Egypt ...	1009.6	+0.6	36.1	+0.4	21.7	+0.5	28.9	+0.4	0	0
IV.—Upper Egypt ...	1008.8	+0.8	38.0	—0.5	22.8	—0.3	30.4	—0.4	0	—
V.—Western Desert(2)	1010.3	+1.4	38.4	—1.1	22.4	—0.6	30.4	—0.8	0	0
VI.—Red Sea (Egypt)	1007.0	+0.8	34.4	+0.2	24.0	—1.0	29.2	—0.4	0	0
VII.—Red Sea(Sudan)(3)	1006.2	+0.8	41.1	+0.2	27.7	—0.3	34.4	0.0	25	+19
VIII.—North Sudan ...	1009.6	+0.8	38.6	—0.9	24.6	—0.1	31.6	—0.5	77	+34
IX.—Central Sudan ...	1011.6	+0.7	33.5	—1.3	22.6	+0.5	28.0	—0.4	129	+ 6
X.—South Sudan ...	1013.6	+1.2	30.5	—0.9	21.4	+0.8	26.0	0.0	136	—25
									129	—12

(1) Alexandria and Port Said.

(2) Bahariya, Kharga and Dakhla

(3) Port Sudan only.

RAINFALL DATA IN CERTAIN STATIONS FOR THE MONTH OF JULY 1942

STATION	Normal	1942	Diff from Normal	Remarks
	m/m.	m/m.	m/m.	
Juba ...	122	115	— 7	—
Wau ...	189	152	—37	—
Malakal ...	174	200	+26	—
Roseires ...	187	265	+78	—
Gambeila ...	219	136	—83	—
Addis Ababa ...	—	—	—	—

L. J. SUTTON,
Director, Meteorological Service.

State of the River

Owing to heavy rains on the Lake Plateau, Lake Albert at Butiaba continued its rise which was 9 centimetres during the month. Its level on August 1st 1942 was 98 centimetres above the normal and 126 centimetres above the corresponding day of last year.

The Bahr el Jebel at Juba fluctuated slightly during the month. The levels were on the whole almost steady and well above both the normal and last year's.

The River Sobat at Nasser rose at almost normal rate. The levels were well above the normal but below those of last year.

The White Nile at Malakal continued its rise and the levels were almost identical with both the normal and last year's throughout. At Gebel Aulia regulation for filling the Reservoir started on the 10th; the D.S. levels fell rapidly until the 13th then rose steadily again to the end of the month.

At Roseires on the Blue Nile, several flushes gradually increasing in height, were recorded. The rise during the month amounted to five metres and the levels were on the whole, continuously above the normal and more than one metre above it. They were also about 0·70 metres above last year's levels. At Khartoum the levels followed the conditions prevailing D.S. Gebel Aulia.

At Khashm el Girba, on the River Atbara, characteristic violent fluctuations were recorded during the month. The levels were well above the normal and much above last year's.

The Main Nile at Kajnarti was almost steady during the first week, after which it rose steadily and more rapidly than normal rate till the end of the month. The level which was 31 centimetres below the normal at the beginning of the month was 109 centimetres above it at its end. The levels on the average were almost normal but well above those of last year.

The difference of the mean levels in July 1942 from those of July 1941 and from the normal 1906-1935 were:—

STATION	MEAN DIFFERENCE OF LEVELS	
	July 1942 minus July 1941	July 1942 minus Normal
	Metre	Metre
Juba	+ 0·61	+ 0·35
Nasser	— 0·14	+ 0·28*
Malakal	+ 0·04	+ 0·10
Roseires	+ 0·68	+ 1·07
Khartoum	+ 0·35	0·00
Khashm el Girba	+ 1·06	+ 0·26
Kajnarti	+ 0·37	+ 0·08

* Nasser Normal is for 1922-35 only.

Y. M. SIMAIKA,
Director, Hydrological Service.

Ministry of Public Works, Egypt.—Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR AUGUST 1942

The Weather

Weather conditions were generally of the usual settled type with small departures from the normal. From the 4th. until the 24th., with the exception of a few days, the weather was cooler than usual for the time of year, particularly by day. On the morning of the 20th. light showers occurred at Damietta, this being the only occasion on which rain has been reported there in August since observations began thirty years ago.

On the 25th. a shallow depression appeared off the Mediterranean coast of Egypt and gave rise to hot southeasterly winds in the Delta. The temperature in Cairo reached 40° C (104° F), or 6° C above the normal, but the heat wave was of short duration. North-westerly winds and cool weather were re-established on the 27th. and continued for the rest of the month.

For the month as a whole the barometric pressure was above normal throughout Egypt, and the temperature below, except on the Mediterranean coast where it was normal. Relative humidity at Cairo (Helwan) and Alexandria was 3 per cent below normal. Rainfall was above normal in the northern and southern Sudan, and below normal in the central district.

THE DEPARTURE FROM NORMAL FOR AUGUST 1942

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		(MAX + MIN / 2)			
	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I.—Mediterranean ⁽¹⁾	1010.2	+0.8	31.2	+0.2	23.4	−0.2	27.3	0.0	0	0
II.—Lower Egypt ...	1010.4	+0.6	33.1	−1.3	19.6	−0.5	26.4	−0.9	0	0
III.—Middle Egypt ...	1010.3	+0.8	34.7	−0.5	21.1	−0.4	27.9	−0.4	0	0
IV.—Upper Egypt ...	1009.1	+0.6	37.4	−0.7	22.9	−0.3	30.2	−0.5	0	—
V.—Western Desert ⁽²⁾	1010.6	+1.0	38.0	−1.4	22.6	0.0	30.3	−0.7	0	0
VI.—Red Sea (Egypt)	1006.8	+0.2	33.8	−1.0	25.6	−0.5	29.7	−0.8	0	0
VII.—Red Sea(Sudan) ⁽³⁾	1005.7	−0.2	40.6	−0.1	23.1	−0.7	34.4	−0.4	drops	−3
VIII.—North Sudan ...	1009.3	+0.2	37.8	−0.7	25.2	+0.7	31.5	0.0	70	+7
IX.—Central Sudan ...	1011.4	+0.3	32.0	−1.2	22.0	+0.6	27.0	−0.3	131	−17
X.—South Sudan ...	1012.9	+0.7	30.2	−1.1	20.9	+0.4	25.6	−0.4	198	+23

(¹) Alexandria and Port Said.

(²) Bahariya, Kharga and Dakhla

(³) Port Sudan only.

RAINFALL DATA FOR THE MONTH OF AUGUST 1942

Station	1942	Difference from Normal	Station	1942	Difference from Normal
	mm	mm		mm	mm
Juba	134	+ 2	Addis Ababa	—	51
Wau	279	+ 69	Roseires	168	18
Malakal	244	+ 59	Wad Medani	162	33
El-Obeid	130	+ 8	Atbara	72	10
El-Fasher	85	− 47	Kassala	116	3
Khartoum	66	− 8	Port Sudan	drops	—

L. J. SUTTON,
Director, Meteorological Service.

State of the River

Lake Albert at Butiaba rose 23 cms. during the month. Its level on September 1, 1942 was 114 cms. above the normal and 139 cms. above the corresponding day of last year.

The Bahr elJebel at Juba recorded an abnormal peak on the 11th. which was 1.72 metres above the normal. As a whole the levels were much above both the normal and last year's.

The River Sobat at Nasser continued its rise at about normal rate. The levels were continuously above the normal but almost identical with those of last year during the 1st. fortnight and above them thereafter.

The White Nile at Malakal rose steadily during the month. Its levels were above both the normal and last year's throughout.

The Blue Nile at Roseires fluctuated above the normal until the 10th. when it was almost normal, after which a rapid and steady rise set in reaching to a maximum of 21.80 metres on the 21st. which was 2.5 metres above the normal. The corresponding discharge at Wad el Aies amounted to 682 millions cubic metres per day. A rapid fall occurred thereafter and the levels again reached the normal by the end of the month. The levels in general were much above the normal and those of last year. At Khartoum the general features at Roseires were reflected, some days later.

The River Atbara at Khashm el Girba rose with a series of flushes, the highest was that on the 20th. which was 1.65 metres above the normal. The levels fell rapidly thereafter till the end of the month when the level was 24 centimetres below the normal. As a whole the levels throughout the month were much above the normal and last year's.

The Main Nile at Kajnarti rose steadily above the normal during the first fortnight, fluctuated slightly thereafter until it reached its maximum on the 27th. The levels in general were 1.28 metres above the normal and 2.86 metres above those of last year.

The difference of the mean levels in August 1942 from those of August 1941 and from the normal 1906-1935 were :—

STATION	MEAN DIFFERENCE OF LEVELS	
	August 1942 minus August 1941	August 1942 minus Normal
	Metre	Metre
Juba	+ 1.12	+ 0.69
Nasser	+ 0.07	+ 0.23*
Malakal	+ 0.12	+ 0.08
Roseires	+ 1.22	+ 0.68
Khartoum	+ 1.20	+ 0.24
Khashm el Girba	+ 1.34	+ 0.51
Kajnarti	+ 2.86	+ 1.28

* Nasser Normal is for 1922-35 only.

Y. M. SIMAIKA,
Director, Hydrological Service.

Ministry of Public Works, Egypt.—Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR SEPTEMBER 1942

The Weather

Cooler than usual except during the last week, when a heat wave of moderate intensity occurred.

During the first half of the month Egypt was under the influence of high pressure over the Central Mediterranean and low pressure over Syria. Winds were mainly north-westerly and the weather settled and cool. On the 12th a minor cold front traversed Egypt and there were drops of rain at Borollos and in Cairo district.

On the 25th a small depression appeared south of Cyprus. The winds became north-easterly and the weather warmer. There was dense fog in many places on the mornings of that and the following day. The depression passed to Northern Iraq by the 28th, but was succeeded by another depression which arrived near Crete on that day. Winds went round to the south and the weather became much hotter, the temperature in Cairo district reaching 39°C. (102° F.), or 8° C. above normal. The passage of the depression was marked by a fairly severe dust storm near Alexandria and the heat wave then gradually weakened.

For the month as a whole the barometric pressure was everywhere above normal while the temperature was below normal except in the Central and Southern Sudan. Relative humidity at Alexandria and Helwan was normal, but at Helwan it was slightly above normal almost daily until the 24th, and considerably below during the heat wave of the last few days. Rainfall was about normal in the Northern and Southern Sudan, but considerably below in the Central Sudan.

DEPARTURE FROM NORMAL FOR SEPTEMBER 1942

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		(MAX + MIN / 2)			
	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I.—Mediterranean (1)	1013.5	+0.7	30.2	0.0	22.0	—0.6	26.1	—0.3	Drops	0
II.—Lower Egypt ...	1013.7	+0.4	31.7	—0.9	17.3	—1.2	24.5	—1.0	0	0
III.—Middle Egypt ...	1013.6	+0.7	32.7	+0.3	18.9	—0.9	25.8	—0.3	drops	0
IV.—Upper Egypt ...	1012.3	+0.8	34.6	—0.8	20.2	—1.0	27.4	—0.9	0	0
V.—Western Desert(2)	1014.2	+1.5	34.4	—2.3	20.0	—0.9	27.2	—1.6	0	0
VI.—Red Sea (Egypt)	1010.4	+0.8	31.5	—1.0	22.6	—1.2	27.0	—1.1	0	0
VII.—Red Sea(Sudan)(3)	1008.7	+0.4	37.5	—0.4	27.0	+0.6	32.2	+0.1	0	0
VIII.—North Sudan ...	1010.1	+0.7	39.0	—0.5	24.6	+0.1	31.8	—0.2	18	— 3
IX.—Central Sudan ...	1010.4	—0.2	35.7	+0.5	22.0	+0.7	28.9	+0.6	37	—34
X.—South Sudan ...	1012.1	+0.5	32.4	—0.3	21.3	+0.6	26.8	+0.2	140	+ 5

(1) Alexandria and Port Said.

(2) Bahariya, Kharga and Dakhla.

(3) Port Sudan only.

RAINFALL DATA FOR THE MONTH OF SEPTEMBER 1942

Station	1942	Difference from Normal	Station	1942	Difference from Normal
	m./m	m./m		m./m	m./m
Juba	115	+ 10	Addis Ababa	—	—
Wau	184	+ 17	Roseires	106	— 44
Malakal	117	— 17	Wad Medani	10	— 45
El-Obeid	39	— 34	Atbara	9	+ 3
El-Fasher	9	— 22	Kassala	50	— 7
Khartoum	12	— 7	Port Sudan	0	0

L. J. SUTTON,
Director, Meteorological Service.

State of the River

Lake Albert at Butiaba rose 11 centimetres during the month. Its level on October 1st, 1942, was 117 centimetres above the normal and 147 centimetres above the corresponding day of last year.

The Bahr el Jebel at Juba fell rapidly after the 10th, the levels in general were much above both the normal and last year's.

The River Sobat at Nasser rose at a normal rate. The levels were, throughout the month, above the normal and those of last year.

The White Nile at Malakal continued its rise during the month. The levels were above both the normal and last year's levels throughout.

The Blue Nile at Roseires fell normally with slight fluctuations. By the end of the month the levels were tending to rise. The levels were on the whole 20 centimetres above the normal and about one metre above those of last year. At Khartoum, the river fell below the normal throughout the month.

The River Atbara at Khashm el Girba fluctuated almost identically with the normal but the levels were well above those of last year throughout.

At Kajnarti, on the Main Nile, the River fell rapidly during the month. The level which was 134 centimetres above the normal on the beginning of the month was 44 centimetres below it on its end. The levels were in general about 2 metres above those of last year.

The difference of the mean levels in September 1942 from those of September 1941 and from the normal 1906-1935 were :—

STATION	MEAN DIFFERENCE OF LEVELS	
	September 1942 minus September 1941	September 1942 minus Normal
	Metre	Metre
Juba	+ 1·16	+ 0·77
Nasser	+ 0·28	+ 0·25*
Malakal	+ 0·30	+ 0·17
Roseires	+ 0·94	+ 0·20
Khartoum	+ 0·82	— 0·45
Khashm el Girba	+ 0·76	— 0·16
Kajnarti	+ 1·92	— 0·01

* Nasser Normal is for 1922-35 only.

Y. M. SIMAIKA,
Director, Hydrological Service.

Ministry of Public Works, Egypt.—Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR OCTOBER 1942

3

The Weather

The weather during October was remarkable for the exceptional thunderstorms and heavy rainfall during the first week, and for the abnormal heat wave of the second week.

At the beginning of the month a shallow depression was situated over the eastern Mediterranean. Unusually bad weather for the time of year was experienced in northern Egypt on the 3rd. Severe duststorms followed by heavy rain, with thunder and lightning, were experienced in many localities. The rainstorm was most severe over the central and eastern part of the Delta; 45 millimetres were registered at Mansourah. The rain was generally accompanied by large hailstones, in some cases the size of an egg, causing damage to crops and cattle. It was reported that even in the western desert hailstones of an inch in diameter fell during the storm. The rain was much less intense over Middle Egypt; Cairo district almost completely escaped the storm. On the following day a shallow depression over the eastern desert caused light showers in Upper Egypt and Sinai.

On the 6th a system of high pressure extended from the Syrian desert across the eastern Mediterranean; north-east winds prevailed, being particularly strong at Helwan where a velocity of 69 kilometres per hour was registered. A spell of warm weather was experienced for a few days. In Kharga Oasis the temperature rose to 42° C. (108° F.) on three successive days; this is the highest on record there for October.

On the 9th a shallow depression approached Upper Egypt from the Libyan desert. During its passage winds blew from the south and a duststorm occurred in Cairo district. The weather became much hotter, and on the following day, when the winds were east and south-east, temperatures rose considerably. At Suez 42°C. was registered, and in Cairo the temperature reached 41 °C. (106 °F.). These are 10-11 °C. above normal, and the heat wave was the most intense experienced in Middle Egypt in any October for at least 38 years.

With the formation of a depression near Cyprus on the 12th the winds veered to north-west, the temperature in consequence falling rapidly. The weather then became settled and mild. This depression deepened on the 16th and cold air reached Egypt from southern Europe. Severe duststorms took place and for 2 days showers were widespread over Lower Egypt, being particularly heavy in the Delta; at Tanta 12 millimetres were recorded on the 16th. On that day the wind reached a velocity of 87 kilometres per hour at Alexandria. The maximum temperature registered at Damanhur on the 17th was only 24 °C., compared with a normal of 30 °C., while at Mansourah it was as low as 8 °C. below normal. The weather remained unusually cool until the end of the third week.

High pressure was established over Egypt by the 22nd and the weather was fine, with fresh north-easterly winds. A shallow depression off the coast then caused south-easterly winds and warmer weather ; on the following day the weather was unsettled and showery. Subsequently weather conditions were generally settled.

For the month as a whole the deviations from normal of the barometric pressure were small. The temperature was slightly below normal in Lower Egypt and the central Sudan, and above normal elsewhere, though not by large amounts. Throughout Egypt rainfall was much heavier than usual. It was also above normal in the northern and central Sudan, but much below in the southern Sudan.

DEPARTURE FROM NORMAL FOR OCTOBER 1942

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		(MAX + MIN / 2)			
	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I.—Mediterranean ⁽¹⁾	1015.4	-0.4	28.5	+0.1	20.2	-0.4	24.4	-0.2	13	+ 7
II.—Lower Egypt ...	1015.7	-0.5	29.3	-1.2	16.8	+0.4	23.0	-0.4	20	+16
III.—Middle Egypt ...	1015.6	-0.2	31.2	+1.0	17.9	+0.3	24.6	+0.6	4	+ 2
IV.—Upper Egypt ...	1015.0	+0.5	33.3	+0.7	19.4	+0.8	26.4	+0.8	drops	- 1
V.—Western Desert ⁽²⁾	1015.5	+0.1	34.6	+0.7	19.1	+1.3	26.8	+1.0	"	0
VI.—Red Sea (Egypt)	1013.6	+0.3	30.9	+0.9	21.5	+0.7	26.2	+0.8	"	0
VII.—Red Sea(Sudan) ⁽³⁾	1012.7	+0.9	34.0	+0.2	26.0	+1.3	30.0	+0.8	"	-13
VIII.—North Sudan ...	1010.5	+0.3	38.4	-0.4	23.1	+0.3	30.8	0.0	10	+ 6
IX.—Central Sudan ...	1009.5	-0.3	37.1	-0.4	20.4	-0.3	28.8	-0.4	28	+12
X.—South Sudan ...	1010.6	-0.2	35.2	+1.1	21.3	+0.6	28.2	+0.8	28	-67

⁽¹⁾ Alexandria and Port Said.

⁽²⁾ Bahariya, Kharga and Dakhla.

⁽³⁾ Port Sudan.

L. J. SUTTON,
Director, Meteorological Service

State of the River

Lake Albert at Butiaba rose 2 centimetres during the month. Its level on November 1, 1942 was 112 centimetres above the normal and 144 centimetres above the corresponding day of last year.

The Bahr el-Jebel at Juba fell till the 10th, then the levels were almost steady to the end of the month. They were as a whole well above the normal and much above last year's.

At Nasser on the River Sobat, the river continued its rise during the first fortnight and was almost steady during the rest of the month. The levels were above both the normal and those of last year.

The White Nile at Malakal rose slightly at almost normal rate. The levels were above the normal and last year's throughout. At Gebel Aulia, regulation for lowering the Reservoir level to 376.80 started on the 5th. The D.S. levels rose accordingly till the 9th and fell rapidly thereafter to the end of the month.

The Blue Nile at Roseires reached a peak at the beginning of the month when the level was 1.50 metres above the normal, then fell faster than normal rate till the 11th and almost identical with it to the end of the month. The levels in general were above the normal but below those of last year. At Khartoum the levels followed the same conditions as those D.S. Gebel Aulia.

The River Atbara at Khashm el-Girba fluctuated slightly above the normal till the 10th, then fell more rapidly than normal rate till the end of the month when the discharge was not more than 10 million cubic metres per day.

The Main Nile at Kajnarti fell slightly during the first week then rose to a peak on the 15th, when the level was 75 centimetres above the normal. It then fell to the end of the month when the level was about one metre below the normal. The levels were on the average almost identical with the normal and 135 centimetres above those of last year.

The difference of the mean levels in October 1942 from those of October 1941 and from the normal 1906-1935 were :—

STATION	MEAN DIFFERENCE OF LEVELS	
	October 1942 minus October 1941	October 1942 minus Normal
	Metre	Metre
Juba	+ 0.66	+ 0.30
Nasser	+ 0.29	+ 0.24*
Malakal	+ 0.33	+ 0.10
Roseires	— 0.29	+ 0.26
Khartoum	+ 0.24	— 0.33
Khashm el-Girba	— 0.08	— 0.15
Kajnarti	+ 1.35	— 0.05

* Nasser Normal is for 1922-35 only.

Y. M. SIMAIKA,
Director, Hydrological Service.

Ministry of Public Works, Egypt.—Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR NOVEMBER 1942

The Weather

No large departures from average conditions.

The presence of a depression near Cyprus at the beginning of the month caused unsettled weather and light rain throughout Lower Egypt.

Rain again fell near the Mediterranean coast on the 6th and 7th, being particularly heavy at El Arish where 14 millimetres were recorded. Lightning was observed near Cairo on the evening of the 7th.

Mild pleasant weather with light northeast and north winds followed and was maintained for a week. On the 16th a trough of low pressure was situated north of Cyprus. Cool light northerly winds prevailed and the sky was completely overcast throughout most of the eastern Mediterranean and Egypt, and light rain fell in many localities. A cold front traversed Egypt on the following day. A deeper depression passed along the coast on the 19th, its approach being accompanied by warm easterly winds, and sandstorms were widespread. The westerly winds of its cool sector, bringing a fall of 7° C in temperature, reached the force of a strong gale, velocities of 73 and 88 kilometres per hour being registered at Alexandria on the 20th and 21st, and there were again light showers throughout Lower Egypt.

For the remainder of the month the weather was mild, the winds chiefly northeasterly, and morning mists were frequent.

For the month as a whole the barometric pressure was below normal, and except in Lower Egypt the temperature above normal, in all districts, though only by small amounts. Rainfall was everywhere below normal.

DEPARTURE FROM NORMAL FOR NOVEMBER 1942

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		(MAX + MIN)			
	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I.—Mediterranean (1)	1017.0	-0.2	25.4	+0.4	17.3	+0.1	21.4	+0.2	11	-8
II.—Lower Egypt ...	1017.3	-0.4	25.4	-0.8	13.6	+0.2	19.5	-0.3	5	-2
III.—Middle Egypt ...	1017.3	-0.2	26.2	+0.4	14.2	+0.1	20.2	+0.2	1	-2
IV.—Upper Egypt ...	1016.8	0.1	28.4	+0.4	14.3	+0.5	21.4	+0.4	Drops	0
V.—Western Desert (2)	1017.6	0.1	28.6	0.2	12.8	+0.2	20.7	-0.0	0	0
VI.—Red Sea (Egypt)	1015.5	0.1	27.3	-0.2	16.5	-0.2	21.9	-0.0	0	-3
VII.—Red Sea (Sudan) (3)	1014.0	+0.5	32.0	+0.9	24.0	+0.3	28.0	+0.6	23	-21
VIII.—North Sudan ...	1011.4	-0.8	35.8	+0.7	19.7	+1.0	27.8	+0.8	0	0
IX.—Central Sudan ...	1009.8	-1.0	36.8	+0.7	18.1	+0.9	27.4	+0.8	1	0
X.—South Sudan ...	1009.7	-0.8	36.5	+0.8	20.9	+1.3	28.7	+1.0	16	-5

(1) Alexandria and Port Said.

(2) Bahariya, Kharga and Dakhla.

(3) Port Sudan.

L. J. SUTTON,
Director, Meteorological Service

State of the River

Lake Albert at Butiaba fell 9 centimetres during the month. Its level on December 1, 1942 was 98 centimetres above the normal and 114 centimetres above the corresponding day of last year.

The Bahr el Jebel at Juba fell slightly during the month. The levels were well above the normal and last year's throughout.

The River Sobat at Nasser started its annual fall by the beginning of the month. The levels fell at a normal rate and were in general above the normal but a little below those of last year.

The White Nile at Malakal was almost steady during the month. The levels were identical with the normal but above last year's.

The Blue Nile at Roseires fell at normal rate during the whole month and the levels were about half a metre below those of last year: while at Khartoum the river fell more rapidly due to the completion of the filling of Sennar Reservoir.

The River Atbara at Khashm el-Girba fell below both the normal and last year's levels throughout. By the end of the month the discharge contributed was practically nil.

The Main Nile at Kajnarti fell at about normal rate. The levels were about one metre below both the normal and those of last year.

The difference of the mean levels in November 1942 from those of November 1941 and from the normal 1906-1935 were :—

STATION	MEAN DIFFERENCE OF LEVELS	
	November 1942 minus November 1941	November 1942 minus Normal
	Metre	Metre
Juba	+ 0·51	+ 0·21
Nasser	— 0·07	+ 0·17*
Malakal	+ 0·20	+ 0·03
Roseires	— 0·45	+ 0·04
Khartoum	— 0·44	— 0·61
Khashm el-Girba	— 0·28	— 0·27
Kajnarti	— 0·94	— 0·98

* Nasser Normal is for 1922-35 only.

Y. M. SIMAIKA,
Director, Hydrological Service.

Ministry of Public Works, Egypt.—Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR DECEMBER 1942

The Weather

Mild; little rain.

At the beginning of the month the winds were north easterly, the weather mild, and thick morning fog was widespread. A depression reached Cyprus on the 4th and cool north westerly winds prevailed in Egypt; these conditions continued for a few days during which showery weather was experienced near the coast. With a rise in pressure the winds returned to the north east and the weather became settled, but on the 11th a depression formed over Syria, winds in Egypt backed to north west and there were again light showers along the Mediterranean coast.

A shallow depression appeared over Cyrenaica on the 13th, giving rise to south easterly winds. During its passage the weather was cool and showery, the rain extending as far south as the Fayum, and being heavy near Alexandria, where 11 millimetres were recorded on the 14th. In the early morning of the 19th heavy rain again fell at Alexandria, 12 millimetres being registered, and showers were general in Lower Egypt on that day.

By the end of the third week high pressure extending from the Syrian desert across the Mediterranean towards Greece gave rise to a fairly damp north-easterly current of air across most of the Delta. The weather was mild by day and thick morning fogs were frequent.

From the 27th to the end of the month, with low pressure over the eastern Mediterranean, southerly winds prevailed over Egypt and the weather was much warmer.

For the month as a whole the barometric pressure was above normal in Egypt and below in the Sudan, except in the extreme south, while the temperature was everywhere above normal. Throughout Egypt and the Sudan rainfall was below normal. Relative humidity was below normal at Alexandria but appreciably above in Cairo district.

DEPARTURE FROM NORMAL FOR DECEMBER 1942

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		(MAX + MIN (2))			
	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal	1942	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I.—Mediterranean (1)	1019.4	+1.4	22.0	+1.4	14.0	+1.5	18.0	+1.4	16	—17
II.—Lower Egypt ...	1019.8	+1.1	21.8	+0.3	9.4	+0.6	15.6	+0.4	2	—9
III.—Middle Egypt ...	1019.6	+0.6	21.8	+0.8	9.8	+0.3	15.8	+0.6	2	—2
IV.—Upper Egypt ...	1019.1	0.0	23.4	+0.5	10.1	+1.1	16.8	+0.8	0	—
V.—Western Desert	1020.0	+0.2	22.4	—0.5	7.6	+1.0	15.0	+0.2	0	0
VI.—Red Sea (Egypt)(2)	1017.1	—0.3	23.6	+0.1	13.8	+0.6	18.7	+0.4	0	—3
VII.—Red Sea (Sudan)(3)	1014.9	—0.2	29.6	+1.2	22.5	+1.1	26.0	+1.2	4	—22
VIII.—North Sudan ...	1013.9	—0.6	31.8	+0.6	16.2	+1.7	24.0	+1.2	0	0
IX.—Central Sudan ...	1012.2	—0.6	34.1	+0.5	15.2	+1.2	24.6	+0.8	0	0
X.—South Sudan ...	1011.1	+0.2	35.8	—0.1	19.5	+1.0	27.6	+0.4	1	—4

(1) Alexandria and Port Said.

(2) Tor and Quseir.

(3) Port Sudan only.

L. J. SUTTON,
Director, Meteorological Service.

State of the River

Lake Albert at Butiaba fell 13 centimetres during the month. Its level on January 1, 1943, was 88 centimetres above the normal and 90 centimetres above the corresponding day of last year.

The Bahr el Jebel at Juba fell slightly during the month. The levels were above both the normal and last year's throughout.

The River Sobat at Nasser continued its fall at faster than normal rate. The level which was 20 centimetres above the normal at the beginning of the month was 129 centimetres below it at its end. The levels were in general about half a metre below those of last year.

The White Nile at Malakal also fell more rapidly than usual. The levels were as a whole identical with the normal but a little below last year's.

The Blue Nile at Roseires continued its fall during the month at slower than normal rate. The Levels were above the normal throughout and in general almost identical with those of last year. At Khartoum the levels were much below the normal but a little above last year's.

At Kajnarti, on the Main Nile, the river continued its fall during the first fortnight and was almost steady thereafter. The levels were 70 centimetres below the normal but almost identical with those of last year.

The difference of the mean levels in December 1942 from those of December 1941 and from the normal 1906-1935 were :—

STATION	MEAN DIFFERENCE OF LEVELS	
	December 1942 minus December 1941	December 1942 minus Normal
	Metre	Metre
Juba	+ 0·33	+ 0·24
Nasser	— 1·35	— 0·47*
Malakal	— 0·10	+ 0·01
Roseires	— 0·04	+ 0·19
Khartoum	+ 0·09	— 0·40
Kajnarti	— 0·03	— 0·70

* Nasser Normal is for 1922-35 only.

Y. M. SIMAIKA,
Director, Hydrological Service.